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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,104	12/07/2000	Steven Teig	SPLX.P0004	2615

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EXAMINER
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CHU, CHRIS C

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 01/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/733,104

Applicant(s)

TEIG ET AL.

Examiner

Chris C. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### *Claim Objections*

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 6 ~ 15 been renumbered 7 ~ 16.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 10 ~ 12, and 14 ~ 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bezama et al.

Note Fig. 1 of Bezama et al., where he/she shows an integrated circuit comprising: at least one metal layer comprising a plurality of sections (see Fig. 1), each section comprising a

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plurality of conductors (36, 38, 40, and 41) to interconnect points on the integrated circuit (see Fig. 1), wherein a preferred direction, within a section, defines a direction, relative to the boundaries of the integrated circuit, for at least fifty percent of conductors in the section (see Fig. 1); a first section (24) comprising a first preferred direction for the conductors deposited in the first section (see Fig. 1); and a second section (14) comprising a preferred diagonal wiring direction (read column 5, lines 35 ~ 40) for the conductors deposited in the second section, such that the diagonal wiring preferred direction is a direction different from the first preferred direction (see Fig. 1).

Regarding claim 10, note Fig. 1 of Bezama et al., where he/she shows the first preferred direction comprises a first Manhattan direction (see Fig. 1).

Regarding claim 12, note Fig. 1 of Bezama et al., where he/she shows at least one more section having a preferred direction comprising a Manhattan direction (see Fig. 1).

Regarding claim 14, note Fig. 1 of Bezama et al., where he/she shows the preferred direction comprises a diagonal direction (read column 5, lines 35 ~ 40); and the direction different than the preferred direction comprises a Manhattan direction (see Fig. 1).

Regarding claim 15, note Fig. 1 of Bezama et al., where he/she shows the preferred direction comprises a Manhattan direction (see Fig. 1); and the direction different than the preferred direction comprises a diagonal direction (read column 5, lines 35 ~ 40).

Regarding claim 16, note Fig. 1 of Bezama et al., where he/she shows the direction different than the preferred direction comprises a direction complementary to the preferred direction (see Fig. 1).

4. Claims 1 ~ 9, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Funaki et al.

Note Fig. 1 of Funaki et al., where he/she shows an integrated circuit comprising: at least one metal layer comprising a plurality of sections (see Fig. 1), each section comprising a plurality of conductors (D1, S1, and G1) to interconnect points on the integrated circuit (see Fig. 1), wherein a preferred direction, within a section, defines a direction, relative to the boundaries of the integrated circuit, for at least fifty percent of conductors in the section (see Fig. 1); a first section (the left side) comprising a first preferred direction for the conductors deposited in the first section (see Fig. 1); and a second section (the right side) comprising a preferred diagonal wiring direction for the conductors deposited in the second section, such that the diagonal wiring preferred direction is a direction different from the first preferred direction (see Fig. 1).

Regarding claim 2, note Fig. 1 of Funaki et al., where he/she shows the first preferred direction comprises a diagonal direction (see Fig. 1).

Regarding claim 3, note Fig. 1 of Funaki et al., where he/she shows the first preferred diagonal direction comprises a direction perpendicular to said a preferred diagonal wiring direction in said second section (see Fig. 1).

Regarding claim 4, note Fig. 1 of Funaki et al., where he/she shows the diagonal direction comprises an octilinear direction (see Fig. 1).

Regarding claim 5, note Fig. 20 of Funaki et al., where he/she shows the diagonal direction comprises a hexilinear direction (see Fig. 20 and read column 11, lines 33 ~ 41).

Regarding claim 6, note Fig. 1 of Funaki et al., where he/she shows the first preferred direction comprises a first diagonal direction (see Fig. 1); and the second preferred direction comprises a second diagonal direction, different from the first diagonal direction (see Fig. 1).

Regarding claim 7, note Fig. 1 of Funaki et al., where he/she shows the first diagonal direction comprises an octalinear direction (see Fig. 1); and the second diagonal direction comprises an octalinear direction complementary to the first diagonal direction (see Fig. 1).

Regarding claim 8, note Fig. 20 of Funaki et al., where he/she shows the first diagonal direction comprises a hexalinear direction (see Fig. 20); and the second diagonal direction comprises a hexalinear direction complementary to the first diagonal direction (see Fig. 20).

Regarding claim 9, Funaki et al. discloses the first diagonal direction comprises an octalinear direction (see Fig. 1); and the second diagonal direction comprises a hexalinear direction (see Fig. 20).

Regarding claim 11, note Fig. 1 of Funaki et al., where he/she shows at least one more additional section having a preferred direction comprising a diagonal direction (see Fig. 1).

Regarding claim 13, note Fig. 8 of Funaki et al., where he/she shows at least one additional wire deposited in a section with a direction different than the preferred direction of the section (see Fig. 8).

*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fuchida et al., Weber, Igarashi et al., Rostoker et al., and Fujiwara et al. disclose a semiconductor device.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu  
Examiner  
Art Unit 2815

c.c.  
December 27, 2001



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